Amendments to the Specification

Please delete the heading before paragraph [0001]

Please amend the heading before paragraph [0002] as follows:

~~DESCRIPTION OF RELATED ART~~ BACKGROUND

Please replace paragraph [0008] with the following amended paragraph:

[0008] ~~The~~ An object and a technical problem on which the invention is based is that of creating a rotor for a rotorcraft, which rotor ensures improved flying properties, greater flying comfort, and greater safety and reliability, and is also suitable in at least one embodiment as a tilting rotor for a tiltrotor rotorcraft. A rotorcraft having such a rotor is also to be made available.

Please delete paragraph [0009]

Please add the following new paragraph before paragraph [0010]

[0009.1] The present invention provides a rotor, comprising at least two rotor blades connectable to a rotor head, which each possess a blade neck having a virtual flapping hinge in the form of a flexurally soft, flexurally elastic blade-neck portion, there being provided, in a blade-connector region of the blade neck, two auxiliary flapping hinges, which are spaced apart from one another in the radial longitudinal direction of the rotor blade with reference to a rotor radius. Between which the virtual flapping hinge is substantially disposed and between which the blade neck is deformable in flexurally elastic and curved fashion in the context of a flapwise motion. The blade-connector region of the blade neck of a respective rotor blade, which region contains the two auxiliary flapping hinges and the virtual flapping hinge located therebetween, is embodied in the form of a blade-connector arm; the rotor blades are joined to one another via their blade-connector arms; the blade-connector arms of the rotor blades that are joined to one another overlap at least in subregions; and one respective auxiliary flapping hinge is located in the overlap region of the connector arms.

Please replace paragraph [0016] with the following amended paragraph:

[0016] Further preferred and advantageous embodiment features of the rotor according to the present invention are the subject matter of the ~~dependent Claims 2 to 32~~ claims.

Please replace paragraph [0017] with the following amended paragraph:

[0017] ~~An underlying object of the invention is furthermore achieved by~~ The present invention also provides a rotorcraft, in particular a helicopter, in particular a tiltrotor helicopter, having at least one rotor. ~~according to the present invention having the features of Claim 33.~~

Please amend the heading before paragraph [0037] as follows:
~~DESCRIPTION OF PREFERRED EXEMPLIFYING EMBODIMENTS~~ DETAILED DESCRIPTION

Please replace paragraph [0038] with the following amended paragraph:
[0038] FIG. 1 is a schematic perspective plan view of a hingeless rotor according to the present invention in accordance with a first embodiment. The rotor encompasses a rotor head 2 having a plate-shaped, four-armed rotor star 4, flexurally soft in the flapwise direction, that engages nonrotatably on a rotor mast 6 and serves as a torque-transmission element, as well as four similarly configured rotor blades B1, B2, B3, B4. For the sake of clarity, the lift-generating regions of the rotor blades are not depicted in the drawing. The rotor blades are fabricated substantially from fiber composite material. Each two rotor blades B1, B3; B2, B4 that constitute a rotor blade pair are located at a 180-degree offset from one another. The two rotor blade pairs thus formed are in turn disposed at a 90-degree offset from one another. Each rotor blade possesses, for example, a blade neck 8 having flexurally soft, flexurally elastic blade-neck portions. Rotor blades B1, B2, B3, B4 are connected, in the region of their blade-neck portions, nonrotatably to rotor ~~star 4~~ mast 6 via rotor star 4 ~~[sic]~~. The rotor blades are furthermore joined to one another in a manner to be described in further detail below.

Please replace paragraph [0039] with the following amended paragraph:

[0039] FIG. 2 is a schematic, greatly simplified side view of the rotor of FIG. 1. For the sake of simplicity, only a single rotor blade B1 is depicted in this drawing. The explanations that follow also apply analogously, however, to the other rotor blades. As is evident from FIG. 2, there are provided, in a blade-connector region of blade neck 8 of rotor blade B1, two respective auxiliary flapping hinges H1, H2 that are spaced apart from one another in, or predominantly in, the radial direction with reference to rotor radius R of the rotor, i.e. in the longitudinal direction of rotor blade B1. Auxiliary flapping hinges H1, H2 thus support blade neck 8 in articulated or apparently articulated fashion at two locations spaced apart from one another in the radial direction of the rotor. The result is a kind of two-point bearing. Between these two auxiliary flapping hinges H1, H2, blade neck 8 is deformable in flexurally elastic and curved fashion in the context of a flapwise motion of rotor blade B1. The deflection of rotor blade B1 and the flexion of blade neck 8 are indicated by a dashed line. As a result of this configuration, rotor blade B1 behaves in its totality, in the context of a flapwise motion, as if its flapping hinge were apparently located exactly on rotor axis A. The (apparent) flapping hinge distance DS of this virtual flapping hinge is thus zero (DS = 0). In the Figures that follow, auxiliary hinges H1, H2 ~~H1 [sic]~~ are for the most part always indicated only for a single rotor blade, for better clarity. The disposition of the auxiliary hinges for the other rotor blades is analogous.

Please replace paragraph [0043] with the following amended paragraph:

[0043] As is also evident from FIG. 1, connector arms 12, 14 of the first rotor blade pair furthermore overlap or cross over connector arms 12, 14 of the second rotor blade pair. As a result, four connector arms, i.e. one connector arm of each rotor blade B1, B2, B3, B4, lie one above another in the resulting crossover region 16. At crossover region 16, connector arms 12, 14 are joined both to one another and to rotor star 4. The ~~join~~ joint is made, in this example, with a one bolt 18 in each case that extends, approximately parallel to rotor axis A, through rotor star 4 and through the respective connector arms 12, 14. For the rotor shown in FIG. 1, four bolts 18 are thus required in order to join rotor blades B1, B2, B3, B4, via their connector arms 12, 14, to one another and to rotor star 4.

Please replace paragraph [0045] with the following amended paragraph:

[0045] Each crossover region 16 of connector arms 12, 14, which are flexurally elastic and flexurally soft in the flapwise direction, forms, together with bolts 18, an auxiliary flapping hinge H1, H2 between the arms of rotor star 4. One auxiliary flapping hinge H1, H2 is thus located in each overlap region or crossover region 16 of connector arms 12, 14 of rotor blades B1, B2, B3, B4. Two auxiliary flapping hinges H1, H2 spaced apart from one another in the longitudinal direction of rotor blade B1, B2, B3, B4 are thus also created for each rotor blade B1, B2, B3, B4. Because blade-connector fork 10 of the respective rotor blade B1, B2, B3, B4 has two connector arms 12, 14, each auxiliary flapping hinge H1, H2 has two hinge regions H1a, H~~2~~1b; H2a, H2b located laterally next to one another, and, for each connector arm 12, 14, two bolts 18 spaced apart from one another in the radial direction and two spaced apart from one another in a tangential direction. The two connector arms 12, 14 can deform or deflect between the two radially spaced-apart bolts 18 when the blade (in this case e.g. B1) is loaded in the flapwise direction. In this context, the arms of rotor star 4 can likewise participate in a certain deformation. All this results in an additional softness that in turn results in a smaller flapping hinge distance.

Please replace paragraph [0051] with the following amended paragraph:

[0051] It must furthermore be kept in mind that in the rotor according to the present invention, a single rotor blade B1, B2, B3, B4 is held and retained by a total of four bearing points or bolts 18, since the respective rotor blade B1, B2, B3, B4 possesses, because of blade-connector fork 10, two connector arms 12, 14 each having two bearing points or bolts 18. This is significant in particular in terms of improved safety in the lead-lag direction. Specifically, if one of the four bolts 18 fails, the respective rotor blade B1, B2, B3, B4 continues to be held in moment-fixed fashion in the lead-lag direction, and can still transfer torque from rotor mast 6 and rotor star 4. The influence of a bolt failure on flight mechanics is consequently not so severe as in conventional designs according to the existing art (see FIG. 14), in which, if one of two bolts fails, the rotor blade is then no longer mounted ~~in~~ moment-fixed in the lead-lag direction but is rotatable. Overall, therefore, it is possible

with the rotor according to the present invention to implement, in comparatively simple and effective fashion, a fail-safe design that offers excellent safety.

Please replace paragraph [0057] with the following amended paragraph:

[0057] FIG. 4 is a schematic, perspective plan view of a rotor according to the present invention in accordance with a third embodiment. This variant is largely similar to that of FIG. 1, but the free ends of connector arms 12, 14 of a rotor blade B1, B2, B3, B4 are each embodied in the form of a fork terminal 26. With the rotor in the assembled state, fork terminal 26 is located in the region of an auxiliary flapping hinge H1, H2 ~~H1 [sic]~~ and is joined to a strip-shaped region, located in the vicinity of base portion 22, of a connector arm 12, 14 of a respectively adjacent rotor blade. Fork terminals 26 make it possible to achieve greater retention strength in the joining points located at auxiliary flapping hinges H1, H2, and easier positionability during the assembly of rotor blades B1, B2, B3, B4.

Please replace paragraph [0073] with the following amended paragraph:

[0073] It is also possible in principle to use, instead of the bolts, a different suitable joining means or centrifugal-force-discharging element, for example an integral ~~join~~ joint between the respective connector arms and/or the rotor star or the rotor-head plate, or a rotor-blade connector loop looped around the rotor mast and/or around a rotor-head plate. The loop can be implemented particularly easily by the fact that the two connector arms of the blade-connector fork are, for example, brought together behind the rotor mast into a loop, and joined integrally to one another.

Please delete the entire list of reference characters, as well as the heading on pages 19 and 20.